

The Maury Project

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LONG-TERM GOALS

The Maury Project is an oceanography-based graduate-level precollege teacher enhancement program, designed to promote the scientific literacy of young people by improving the background of pre-college teachers on the physical foundations of oceanography.

OBJECTIVES

This project was designed to meet the following objectives:

- (a) Master teachers will be trained to be peer trainers and resource persons on the physical foundations of selected oceanographic issues.
- (b) Self-contained teacher-enhancement instructional modules will be developed, designed for use by the peer trainers in 1- to 2-hour training sessions.
- (c) The peer trainers will arrange and conduct training sessions for other teachers, with support of the AMS.
- (d) A national network of oceanography peer trainers and resource persons will be developed.
- (e) A variety of instructional resource materials on the physical foundations of oceanography and related topics will be prepared and disseminated.

APPROACH

There were three major components to this program: summer workshops for master precollege teachers, the production of teacher enhancement instructional resource materials, and the peer-training of teachers. The intent was to provide a core group of teachers with the knowledge and instructional resources enabling them, in turn, to peer-train a large number of their peer teachers on selected topics potentially appropriate for pre-college classrooms.

WORK COMPLETED

In Summer 1999, a two-week workshop for pre-college teachers on the physical foundations of selected oceanographic topics was held at the United States Naval Academy in Annapolis, MD. One new self-contained teacher-training module entitled *Pressure Blocks* was completed for use by the peer trainers who attended the Summer 1999 workshop.

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RESULTS

With the training of 26 new participants in the Summer 1999 Maury Project workshop, a total of 121 teachers representing all 50 states, the District of Columbia, Puerto Rico, American Samoa, South Africa, Canada, Great Britain, Australia, Switzerland and US Department of Defense Overseas School System have become peer trainers.

IMPACT/APPLICATIONS

All Summer 1999 participants are committed to offer a minimum of two training sessions for pre-college teachers in their home states and regions during the 1999-2000 school year. These peer trainers will utilize support materials supplied by the project, including 4,000 printed copies of the new teacher-training guide. To see the multiplicative effect of this program, consider that since its inception, approximately 600 workshops were conducted by peer trainers across the country, reaching over 10,000 teachers, each of whom reaches about 100 students daily.

TRANSITIONS

Originally funded by the NSF for 3 summers starting in 1994, the existing Maury Project Summer Workshops at the Naval Academy received additional NOAA, Navy, and AMS support which made it possible to conduct workshops through Summer 1999.

PUBLICATIONS AND PRESENTATIONS

Over 20 publications or conference presentations were made by Maury Project peer trainers at the 1999 Annual Meeting of the AMS and 1999 National Science Teachers Association Conferences. These and additional publications or presentations made by the Maury Project staff include:

PAPERS PRESENTED AT NATIONAL CONFERENCES

Presentations at the 8th AMS Symposium on Education, Dallas, TX (Jan 1999)

- * D.S. Brice, 1999: "The Maury Project: A teacher enhancement program to promote ocean science in the K-12 classroom" (8th Symposium on Education) [Jan 1999].
- * D.M. Curry and M.A. Fryar, 1999: "Collaborative use of educational technology to enhance student learning" (8th Symposium on Education) [Jan 1999].
- * M.J. Passow, 1999: "Implementing weather and ocean education in the New York Regents-only Standards (8th Symposium on Education) [Jan 1999].
- * M.J. Passow, 1999: "Been there, done that: Experiences and tips for K-12 peer training (8th Symposium on Education) [Jan 1999].
- * G.W. Rumpp and P.E. Rumpp, 1999: "The evolution and future of a unique oceanography training program for middle school students (8th Symposium on Education) [Jan 1999].

- * P.E. Rumpp, 1999: “Kids as global scientists at the Bala Cynwyd Middle School” (8th Symposium on Education) [Jan 1999].

Presentations at the 1999 National Convention of the National Science Teachers Association, Boston, MA (April 1999)

M.A. Fryar and D.M. Curry, 1999: “Wind Driven”, Presented at the 1999 NSTA National Convention [April 1999].

J. Backus and M. Thomas, 1999: “Density Driven”, Presented at the 1999 NSTA National Convention [April 1999].

M.J. Passow & P. Lacey, 1999: “El Nino”, Presented at the 1999 NSTA National Convention [April 1999].

R. Jones and D.M. Curry, 1999: “Coastal Upwelling”, Presented at the 1999 NSTA National Convention [April 1999].

L. Maston-McMurry and M.J. Passow, 1999: “Sea Level from Space”, Presented at the 1999 NSTA National Convention [April 1999].

P.E. and G.W. Rumpp, 1999: “Ocean Sound”, Presented at the 1999 NSTA National Convention [April 1999].

A. Kelly and B. Walton-Faria, 1999: “Deep Water Waves”, Presented at the 1999 NSTA National Convention [April 1999].

B. Walton-Faria and G. Thayer, 1999: “Shallow Water Waves”, Presented at the 1999 NSTA National Convention [April 1999].

M.J. Passow and A. Kelly, 1999: “Tides and Tides on the Net”, Presented at the 1999 NSTA National Convention [April 1999].

Annual Meeting of The Oceanography Society (April 1999)

D. Curry (with D.R. Smith, I.W. Geer and D.E. McManus), 1999: “The Maury Project: An innovative approach for teaching the physical foundations in oceanography”, Presented at the 1999 Annual Meeting of The Oceanography Society” [April 1999].

5th International Conference on School and Popular Meteorological and Oceanographic Education, Ballarat and Melbourne, Australia [Jul 1999]

- * D.A. Brice, 1999: “Sound in the Ocean - A Maury Project module”.
- * D.A. Brice, 1999: “The Maury Project - A teacher enhancement program to promote ocean science in the K-12 classroom”.

- * D.A. Brice, 1999: “Water pressure, currents, meanders, rings and things”.
- * L. Emanuelle, 1999: “Project Ocean Australia”.
- * L. Emanuelle, 1999: “The Maury Project: Ocean tides”.
- * B. Jewell, 1999: “ Measuring sea level from space - A Maury Project module”
- * P. Lacey, 1999: “The American Meteorological Society’s Maury Project module: Coastal Upwelling”.
- * G.W. Rumpp and P.E. Rumpp, 1999: “Maury Project module in physical oceanography: Wind-driven Ocean Circulation”.
- * P.E. Rumpp and G.W. Rumpp, 1999: “Maury Project module in physical oceanography - El Niño: The Atmosphere-Ocean Connection”.
- * G.W. Rumpp and P.E. Rumpp, 1999: “A unique oceanography training program for middle school students”.

1999 National Marine Educators Association National Convention

G. Duane, 1999: “What’s in a Beach”, presented at the 1999 NMEA Annual Convention [Aug 1999].

B. Jewell (for D.E. McManus and D.R. Smith), 1999: “AMS Maury Project - Pressure blocks education workshop”, presented at the 1999 NMEA Annual Convention [Aug 1999].

T.K. Hathaway, 1999: “Fun with Shallow-water waves”, presented at the 1999 NMEA Annual Convention [Aug 1999].

J. May-Brett (for D.E. McManus and D.R. Smith), 1999: “AMS Maury Project - El Nino “ENSO-lyzer” education workshop”, presented at the 1999 NMEA Annual Convention [Aug 1999].

Presentations by Maury Project Staff

- * “The Maury Project: A Program on the Physical Foundations of Oceanography for Precollege Teachers” (with I.W. Geer and D.E. McManus), presented at the Marine Technology Society’s Ocean Community Conference ‘98, Baltimore, MD [Nov 1998].
- * “The Maury Project Teachers’ Guides: *Shallow Water Ocean Waves* and *El Niño*” (with D.E. McManus), presented at the Marine Technology Society’s Ocean Community Conference ‘98, Baltimore, MD [Nov 1998].

- * “The Educational Program of the American Meteorological Society: A Model for Teacher Enhancement and Leadership Development”, (with I.W. Geer, R.S. Weinbeck and J.M. Moran) at the 8th AMS Symposium on Education [Jan 99].
 - * “The Maury Project - A five-year retrospective”, (with I.W. Geer and D.E. McManus), at the 5th International Conference on School and Popular Meteorological and Oceanographic Education [Jul 99].
- “An overview of the Maury Project: Teaching the physical foundations of oceanography to teachers”, (with I.W. Geer and D.E. McManus), at the 1999 National Marine Educators Association Annual Conference [Aug 1999].

* Papers published in Conference Preprint Volume